

S/N 09/980,549

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Tommy Koistinen

Examiner: James Wozniak

Serial No.: 09/980,549

Group Art Unit: 2626

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Docket No.: NC14642US/0038-023US1

Title: Adaptive Rate Matching for Data or Speech

REPLY BRIEF

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

This Reply Brief is submitted in reply to the Examiner's Answer mailed September 19, 2008.

STATUS OF CLAIMS

Claims 1-9 are pending in this appeal. No claim is allowed. This appeal is therefore taken from the final rejection of claims 1-9 on November 16, 2007.

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1, 2, 4-5, and 9 are patentable over Suzuki et al. (U.S. Patent No. 5,493,610) in view of Yletyinen (“*The Quality of Voice Over IP*,” 1998).

Whether claims 3 and 6-8 are patentable over Suzuki in view of Yletyinen and further in view of Chang et al. (U.S. Patent No. 5,367,523).

ARGUMENT

A. The substitution of the transmission circuit allocation control unit of Suzuki into the VoIP network of Yletyinen was improper.

The Examiner's Answer asserts, on page 7, that the combination of Suzuki and Yletyinen is the result of the "substitution...of the load detection and data transmission of Suzuki into a VoIP network." The Examiner's Answer asserts that this "substitution" was proper because, "Suzuki's functions would be capable of being implemented in the system of Yletyinen." Applicant respectfully submits that the devices disclosed in Suzuki would not be capable of being implemented in the system of Yletyinen because Suzuki cannot process packets, which are at the core of the problem addressed in Yletyinen.

Yletyinen addresses the problem of congestion in a packet network. Section 3.3.2 of Yletyinen, cited on page 7 of the Examiner's Answer, describes methods which respond to congestion by "provid[ing] an orderly degradation of service." Yletyinen, which is directed to a packet switched network, states quite plainly that, "[s]hort term responses are responses to problems like lost or delayed packets."

The transmission circuit allocation control unit 9 of Suzuki, described on column 5, line 64 to column 6, line 12 and on column 9, line 49 to column 10, line 12, could not respond to lost or delayed packets such as those addressed in Yletyinen because packets are not recognized in the circuit transmission system of Suzuki. Instead of reducing frame or packet rates, or mixing audio and video in a same packet, as described in Yletyinen, these portions of Suzuki describe multiplexing signals and outputting the multiplexed signals. The circuit transmission system of Suzuki is incapable of mixing packets as described in Yletyinen because packets are not recognized in circuit transmission systems. Suzuki does not address the issue of "degradation of service," but deals with the allocation of the transmission line between facsimile signals and speech signals.

Page 8 of the Examiner's Answer sets forth the fallacious premise upon which the combination of Suzuki and Yletyinen rests: that "[w]hen any type of network devices

attempts to transmit an excess of data at one time issues such as delay and dropped packets can result.” No evidence has been submitted to support this premise that both circuit-switched networks and packet-switched networks must deal with “delay and dropped packets.” No such evidence could be found, because the premise is false: packet-switched networks, but not circuit-switched networks, deal with dropped packets. Packet-switched networks may deal with the issue of delay when multiple devices are transmitting packets through the same network. Delay may become an issue in circuit-switched networks only when establishing the circuit, such as when one or more elements of the circuit have already been dedicated to another circuit or device. However, such a delay is not present in the situation addressed in Suzuki, which assumes that the circuit has been established and addresses the issue of multiplexing facsimile signals and speech signals (see, e.g., column 6, line 55, “[u]pon completion of call connection”).

Contrary to the assertion on page 8 of the Examiner’s Answer, that “Suzuki’s system...notes that a network rate can be controlled,” Suzuki does not describe controlling a *network rate*. Column 4, lines 56-58 of Suzuki describe controlling a transmission rate of the *facsimile base band signal*, which is sent from the facsimile protocol control 10 to the sending line allocating part 11. The *transmission* rate of Suzuki is constant (see, e.g., column 6, lines 66-67 “usually four transmission rates, i.e. 9600 b/s, 7200 b/s, 4800 b/s and 2400 b/s, are usable”). Thus, Suzuki does not disclose a system in which the network or transmission rate can be changed—the transmission rate is constant, and includes a multiplexed signal comprised of facsimile signals (based on the received baseband signals) and speech signals.

Therefore, Applicant respectfully submits that the combination of the circuit-switched network device of Suzuki with the packet-switched device of Yletyinen was improper. Accordingly, Applicant requests that the Board reverse the rejections of claims 1, 4, and 9 due to the Examiner’s failure to provide evidence to support the premise that both circuit-switched networks and packet-switched networks deal with “issues such as delay and dropped packets,” and based on the discussion above demonstrating that Suzuki cannot accommodate variable transmission rates or packets. Additionally, Applicant provides the following description of the differences between circuit-switched

networks and packet-switched networks, of which the Board is invited to take official notice.

In a circuit-switched network, once the circuit is established, data must be transmitted at a constant rate, and the connected devices must transmit and receive at the same rate (Applicant notes that the controlling of the transmission rate described in column 4, lines 56-58 of Suzuki applies to the facsimile base band data signal, and not to the signal sent to the receiving device via the sending line). Calls may be “blocked,” when the network cannot accept additional connection requests, but if a call is blocked then the data are simply not sent, rather than sending data which result in dropped packets. In a packet-switched network, on the other hand, the network can perform data-rate conversion, allowing stations with different data rates to exchange packets. Thus, rather than blocking calls or refusing connections, packets may be sent, resulting in delivery delay, until the delay exceeds the buffer capacity of the “choke point” in the network, at which point packets will start to be dropped. In accordance with the above-described principles of circuit-switched networks and packet-switched networks, Applicant respectfully submits that Suzuki, which transmits multiplexed data over a line at a constant rate, could not be substituted into the system of Yletyinen, which responds to service degradation or congestion, which may result from an excess of transmitted data beyond capacity, by reducing rates of frames or packets. Therefore, the combination of the circuit-switched network device of Suzuki with the packet-switched device of Yletyinen was improper, and Applicant respectfully requests that the Board reverse the rejections of claims 1, 4, and 9.

B. Yletyinen does not disclose giving speech data priority over non-speech data.

The Examiner’s Answer, on pages 9-10, asserts that page 42 of Yletyinen describes an order of degradation, and therefore an inverse priority list, of media types. Applicant respectfully submits that the Examiner’s Answer reads far more into Yletyinen than Yletyinen can fairly be read to disclose.

The sentence upon which the Examiner relies is, “[t]he media degradation order is: video, data, audio, control.” The most this could be reasonably interpreted to disclose, even under the Examiner’s Answer’s reading, is that video degrades first, then data, then audio, then control. Yletyinen does not describe any method of prioritizing these media types or preserving

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one in favor of another. This single sentence cannot fairly be read to disclose that “Yletyinen is implying that he cares more about data than video types,” as asserted by the Examiner’s Answer. Therefore, “provid[ing] said codec with a higher priority than the modem” has not been shown, and Applicant respectfully requests that the Board reverse the rejection of claims 1, 4, and 9 for this additional reason.

CONCLUSION AND PRAYER FOR RELIEF

For the foregoing reasons, Appellant requests the Honorable Board to reverse each of the Examiner's rejections.

No fees are believed to be due. If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 50-3521.

Respectfully submitted,

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Date November 13, 2008

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